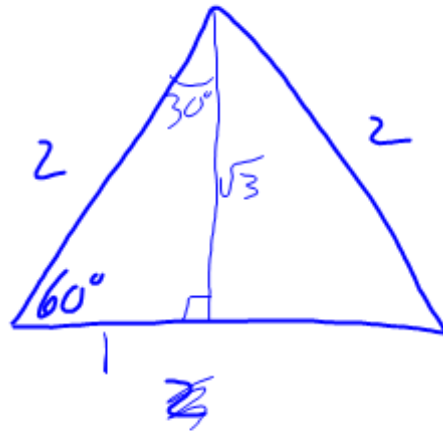


	$0^\circ$	$30^\circ$	$60^\circ$	$90^\circ$
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{\sqrt{3}}{3}$	$\sqrt{3}$	undef.

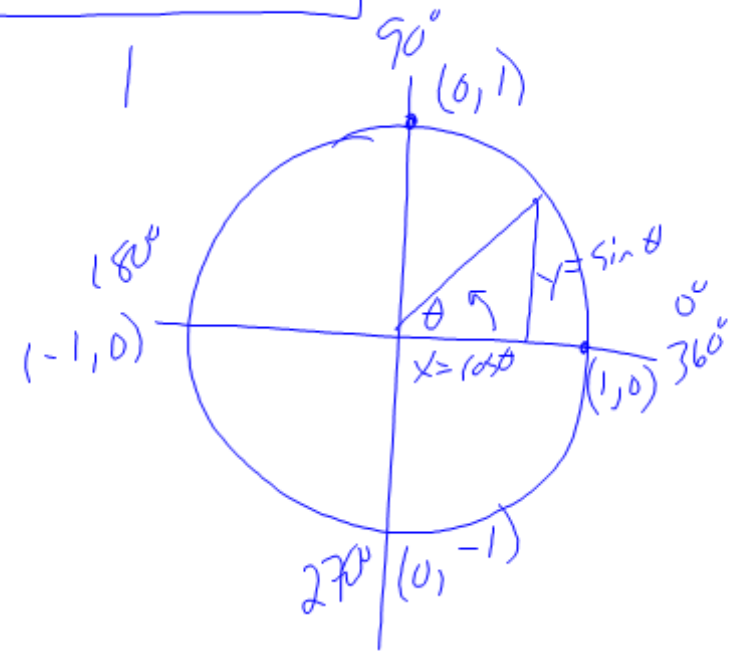
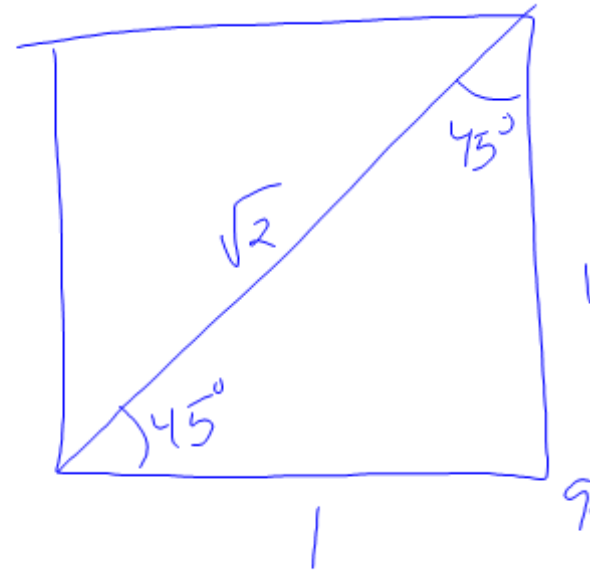
No  
Calc.  
as fast  
as you  
can



$$x = \cos \theta$$

$$y = \sin \theta$$

$$\frac{y}{x} = \tan \theta$$



$$\sin \theta = \frac{3}{5}$$

$$\theta = \sin^{-1}\left(\frac{3}{5}\right)$$

$\sin \theta = \text{value}$ , #

$\sin^{-1}(\ ) = \text{angle}$

$$\csc x = 2.7$$

$$x =$$

$$\csc^{-1}(x) = \sin^{-1}\left(\frac{1}{x}\right)$$

$$\cot^{-1}(x) = \tan^{-1}\left(\frac{1}{x}\right)$$

$$\sec^{-1}(x) = \cos^{-1}\left(\frac{1}{x}\right)$$

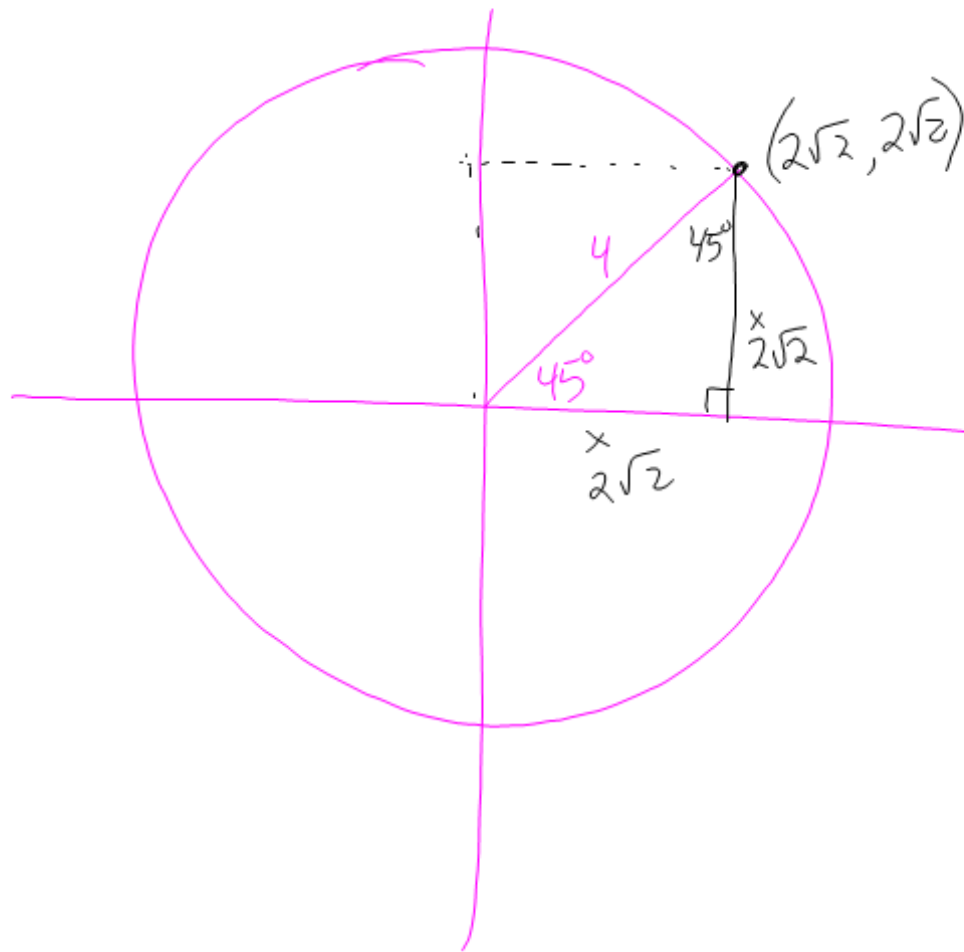
$$\sec x = \frac{1}{\cos x} = 1.6$$

$$\cancel{\cos x} \cdot \frac{1}{\cancel{\cos x}} = 1.6 \cdot \cos x$$

$$\frac{1}{1.6} = \frac{1.6 \cos x}{1.6}$$

$$\frac{1}{1.6} = \cos x$$

$$x = \cos^{-1}\left(\frac{1}{1.6}\right)$$



$$x^2 + y^2 = 4^2$$

$$x = y$$

$$x^2 + x^2 = 4^2$$

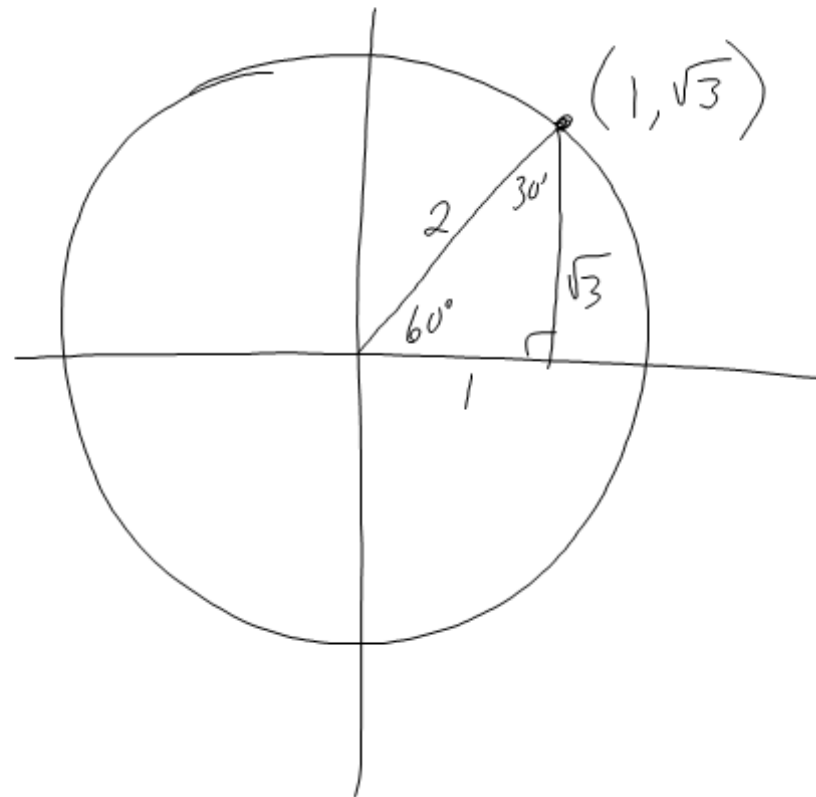
$$2x^2 = 4^2$$

$$2x^2 = 16$$

$$x^2 = 8$$

$$x = \sqrt{8}$$

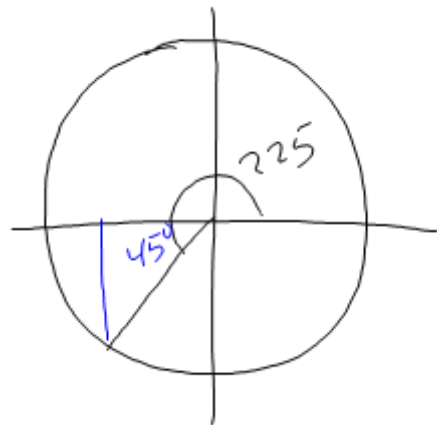
$$x = 2\sqrt{2}$$



Concept: Reference AngleSect. 2.2Rule:

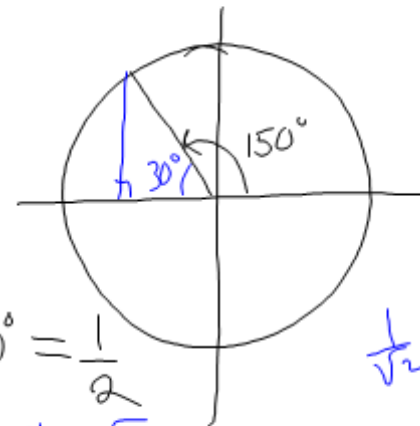
For obtuse angles, draw a perpendicular <sup>line</sup> to x-axis then find the angle formed by the terminal side and the x-axis. This is your reference angle.

Base trig functions off this angle, just watch the sign.

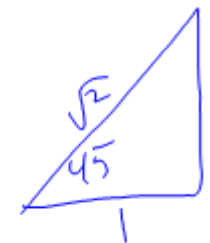


$$\sin 150^\circ = \sin 30^\circ = \frac{1}{2}$$

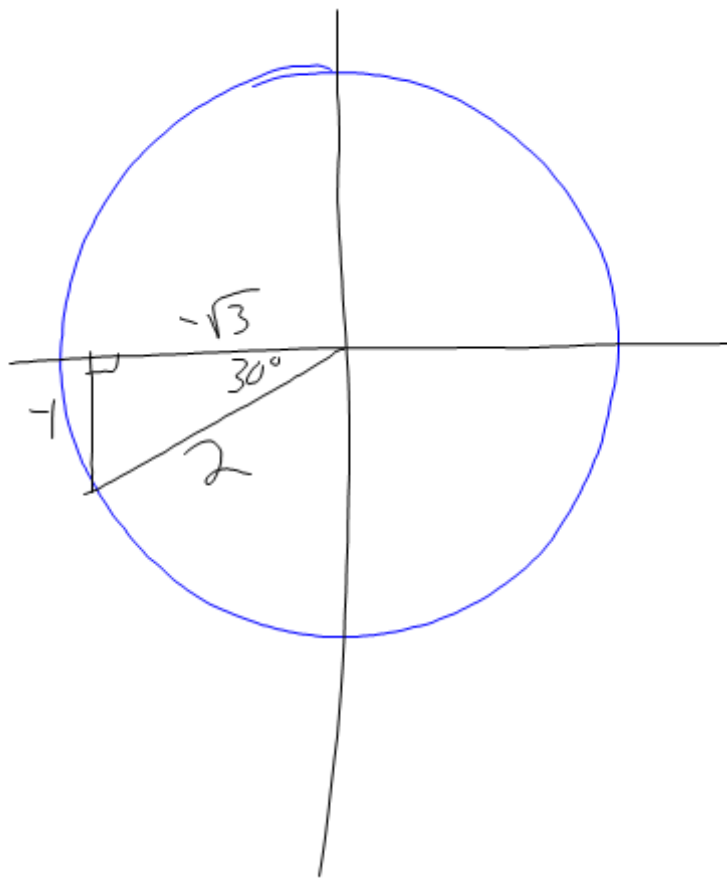
$$\cos 225^\circ \Rightarrow \cos 45^\circ = \frac{\sqrt{2}}{2}$$



$$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$



Try to find exact trig values for  
the 6 trig functions for  $\theta = 210^\circ$



$$\sin 210 = -\frac{1}{2}$$

$$\cos 210 = -\frac{\sqrt{3}}{2}$$

$$\tan 210 = \frac{\sqrt{3}}{3}$$

$$\csc 210 = -2$$

$$\sec 210 = -\frac{2\sqrt{3}}{3}$$

$$\cot 210 = \sqrt{3}$$

Sect. 2.2 # 10-17, 30, 44, 45

Sect. 2.3 # 22, 23, 26, 28, 35